

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 **Claim 1 (previously presented): A fan array fan section in an air-handling**
2 **system comprising:**

3 (a) **at least six fan units;**
4 (b) **said at least six fan units arranged in a fan array;**
5 (c) **an air-handling compartment within which said fan array of fan units**
6 **is positioned; and**
7 (d) **an array controller for controlling said at least six fan units to run at**
8 **substantially peak efficiency by strategically turning selective ones**
9 **of said at least six fan units on and off.**

10 **Claim 2 (previously presented): The fan array fan section in an air-**
1 **handling system of claim 1, wherein said at least six fan units are plenum fans.**

2 **Claim 3 (original): The fan array fan section in an air-handling system of**
3 **claim 1, wherein said air-handling compartment has an airway path, said airway path**
4 **being less than 72 inches.**

5 **Claim 4 (previously presented): The fan array fan section in an air-**
6 **handling system of claim 1, wherein said at least six fan units are a plurality of fan units**
7 **arranged in a fan array configuration selected from the group consisting of:**

8 (a) **a true array configuration;**
9 (b) **a spaced pattern array configuration;**
6 (c) **a checker board array configuration;**

7 (d) rows slightly offset array configuration;
8 (e) columns slightly offset array configuration; and
9 (f) a staggered array configuration.

10
1 Claim 5 (previously presented): The fan array fan section in an air-
2 handling system of claim 1, wherein said at least six fan units include at least two
3 vertically arranged fan units.

4
1 Claim 6 (previously presented): The fan array fan section in an air-
2 handling system of claim 1, wherein each of said at least six fan units is positioned
3 within a fan unit chamber.

4
1 Claim 7 (previously presented): The fan array fan section in an air-
2 handling system of claim 1, wherein each of said at least six fan units is suspended
3 within a respective said fan unit chamber such that there is an air relief passage
4 therebelow.

5
1 Claim 8 (previously presented): The fan array fan section in an air-
2 handling system of claim 1, wherein each of said at least six fan units is positioned
3 within a fan unit chamber having at least one acoustically absorptive insulation surface.

4
1 Claim 9 (previously presented): The fan array fan section in an air-
2 handling system of claim 1, wherein each of said at least six fan units are mounted in a
3 grid system.

4
1 Claim 10 (original): The fan array fan section in an air-handling system of
2 claim 1, wherein each of said at least six fan units has a fan wheel diameter, wherein
3 spacing between said at least six fan units is less than 60% of said fan wheel diameter.

4
1 Claim 11 (cancelled):

2

1 **Claim 12 (cancelled):**

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1 **Claim 13 (cancelled):**

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1 **Claim 14 (cancelled):**

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1 **Claim 15 (cancelled):**

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1 **Claim 16 (cancelled):**

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1 **Claim 17 (cancelled):**

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1 **Claim 18 (cancelled):**

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1 **Claim 19 (cancelled):**

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1 **Claim 20 (cancelled):**

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1 **Claim 21 (previously presented):** The fan array fan section in an air-handling system of claim 1, further comprising an array of backdraft dampeners, each backdraft dampener in line with a respective fan unit.

4

1 **Claim 22 (cancelled):**

2

1 **Claim 23 (currently amended):** The fan array fan section in an air-handling system of claim 1, wherein each fan unit has a peak efficiency operating range outside of which it operates at a reduced efficiency, wherein said array controller is programmed to operate said at least six fan units at substantially peak efficiency by

5 strategically turning off at least one fan unit fan unit operating at reduced efficiency and
6 running the remaining fan units within said peak efficiency operating range.

7

1 Claim 24 (cancelled):

2

1 Claim 25 (previously presented): The fan array fan section in an air-
2 handling system of claim 1, said array controller is programmed to operate said at least
3 six fan units at peak efficiency for a performance level based on a criteria selected from
4 the following group of criteria:

5 (a) air volume;
6 (b) level of air flow;
7 (c) pattern of air flow; and
8 (d) number of fan units to operate.

9

1 Claim 26 (cancelled):

2

1 Claim 27 (previously presented): The fan array fan section in an air-
2 handling system of claim 1, said array controller is programmed to operate said at least
3 six fan units to produce a stable operating point and eliminate the surge effects.

4

1 Claim 28 (cancelled):

2

1 Claim 29 (previously presented): The fan array fan section in an air-
2 handling system of claim 1, said array controller is programmed to selectively control
3 the speed of each of said at least six fan units to run at substantially peak efficiency.

4

1 Claim 30 (cancelled):

2

1 Claim 31 (previously presented): The fan array fan section in an air-
2 handling system of claim 1, said air-handling compartment positionable within a
3 structure such that said air-handling system conditions the air of said structure.

4

1 Claim 32 (new): A fan array fan section in an air-handling system
2 comprising:

3 (a) a plurality of independently controllable fan units, each fan unit
4 comprising an inlet cone, a fan, and a motor;
5 (b) said plurality of fan units arranged in a fan array;
6 (c) an air-handling compartment within which said fan array of fan units
7 is positioned; and
8 (d) an array controller for controlling said plurality of fan units to run at
9 substantially peak efficiency by strategically turning selective ones
10 of said plurality of fan units on and off.

11

1 Claim 33 (new): The fan array fan section in an air-handling system of
2 claim 32, wherein said plurality of fan units are plenum fans.

3

1 Claim 34 (new): The fan array fan section in an air-handling system of
2 claim 32, wherein said air-handling compartment has an airway path, said airway path
3 being less than 72 inches.

4

1 Claim 35 (new): The fan array fan section in an air-handling system of
2 claim 32, wherein said plurality of fan units are a plurality of fan units arranged in a fan
3 array configuration selected from the group consisting of:

4 (a) a true array configuration;
5 (b) a spaced pattern array configuration;
6 (c) a checker board array configuration;
7 (d) rows slightly offset array configuration;

8 (e) columns slightly offset array configuration; and
9 (f) a staggered array configuration.

10
1 Claim 36 (new): The fan array fan section in an air-handling system of
2 claim 32, wherein said plurality of fan units include at least two vertically arranged fan
3 units.

4
1 Claim 37 (new): The fan array fan section in an air-handling system of
2 claim 32, wherein each of said plurality of fan units is positioned within a fan unit
3 chamber.

4
1 Claim 38 (new): The fan array fan section in an air-handling system of
2 claim 32, wherein each of said plurality of fan units is suspended within a respective
3 said fan unit chamber such that there is an air relief passage therebelow.

4
1 Claim 39 (new): The fan array fan section in an air-handling system of
2 claim 32, wherein each of said plurality of fan units is positioned within a fan unit
3 chamber having at least one acoustically absorptive insulation surface.

4
1 Claim 40 (new): The fan array fan section in an air-handling system of
2 claim 32, wherein each of said plurality of fan units is mounted in a grid system.

3
1 Claim 41 (new): The fan array fan section in an air-handling system of
2 claim 32, wherein each of said plurality of fan units has a fan wheel diameter, wherein
3 spacing between said plurality of fan units is less than 60% of said fan wheel diameter.

4
1 Claim 42 (new): The fan array fan section in an air-handling system of
2 claim 32, further comprising an array of backdraft dampeners, each backdraft dampener
3 in line with a respective fan unit.

1 **Claim 43 (new):** The fan array fan section in an air-handling system of
2 claim 32, wherein each fan unit has a peak efficiency operating range outside of which it
3 operates at a reduced efficiency, wherein said array controller is programmed to
4 operate said plurality of fan units at substantially peak efficiency by strategically turning
5 off at least one fan unit operating at reduced efficiency and running the remaining fan
6 units within said peak efficiency operating range.

7
1 **Claim 44 (new):** The fan array fan section in an air-handling system of
2 claim 32, said array controller is programmed to operate said plurality of fan units at
3 peak efficiency for a performance level based on a criteria selected from the following
4 group of criteria:

5 (a) air volume;
6 (b) level of air flow;
7 (c) pattern of air flow; and
8 (d) number of fan units to operate.

9
1 **Claim 45 (new):** The fan array fan section in an air-handling system of
2 claim 32, said array controller is programmed to operate said plurality of fan units to
3 produce a stable operating point and eliminate the surge effects.

4
1 **Claim 46 (new):** The fan array fan section in an air-handling system of
2 claim 32, said array controller is programmed to selectively control the speed of each of
3 said plurality of fan units to run at substantially peak efficiency.

4
1 **Claim 47 (new):** The fan array fan section in an air-handling system of
2 claim 32, said air-handling compartment positionable within a structure such that said
3 air-handling system conditions the air of said structure.

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